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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/819,120	03/27/2001	Stepan Sokolov	SUN1P811/P5512	4323

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EXAMINER

SHAH, NILESH R

ART UNIT	PAPER NUMBER
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2127

DATE MAILED: 02/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/819,120	Applicant(s) SOKOLOV ET AL.	
	Examiner Nilesh Shah	Art Unit 2127	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 September 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 3-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 and 3-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|----------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>1/13/05</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Claims 1, 3-20 are presented for examination.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

3. Claims 1, 3-21 are rejected under 35 U.S.C. 102(e) as being anticipated by Lindwer (6,349,377).
4. As per claim 1, Lindwer teaches a set of virtual machine instructions suitable for execution in a virtual machine, the set of virtual machine instructions representing a

number of corresponding Java Bytecode executable instructions that are also suitable for execution in the virtual machine (col. 1 lines 44-48);

wherein the set of the virtual machine instructions consists of a number of virtual machine instructions which is less than the number of the corresponding Java Bytecode executable instructions (col. 1 lines 53-56), and

wherein every one of the corresponding Java Bytecode executable instructions can be represented by at least one of the virtual machine instructions in the virtual machine instruction set (col. 3 lines 17-23, col. 6 lines 46-53).

5. As per claim 3, Lindwer teaches a set of virtual machine instructions wherein two or more Java Bytecode executable instructions are represented by one virtual machine instruction (col. 6 lines 46-52, col. 14 lines 45-53).
6. As per claim 4, Lindwer teaches a set of virtual machine instructions wherein at least one of the Java Bytecode executable instructions can be represented by the two or more virtual machine instructions (col. 3 lines 29-34).
7. As per claim 5, Lindwer teaches a set of virtual machine instructions wherein the least one Java Bytecode executable instruction is a conditional data flow operation (col. 3 lines 29-34).

8. As per claim 6, Lindwer teaches a set of virtual machine instructions wherein the set includes at least one virtual machine instruction that represents at least one operation that cannot be represented by any one of the Java Bytecode executable instructions (col. 12 lines 60-67).
9. As per claim 7, Lindwer teaches a set of virtual machine instructions wherein the at least one virtual machine instruction represents a duplicate stack operation (col. 14 lines 45-50, col. 6 lines 28-34 col. 9 lines 8-15).
10. As per claim 8, Lindwer teaches a set of virtual machine instructions wherein at least one virtual machine instruction is internally represented in the virtual machine by a pair of streams (col. 6 lines 46-52, col. 8 lines 14-20, col. 14 lines 45-50).
11. As per claim 9, Lindwer teaches a set of virtual machine instructions wherein the pair of streams includes a code stream and a data stream, wherein the code stream is suitable for containing a code portion of the at least one virtual machine instruction (col. 6 lines 46-52, col. 8 lines 14-20, col. 14 lines 45-50); and
and the data stream is suitable for containing a data portion of the at least one virtual machine instruction (col. 6 lines 46-52, col. 8 lines 14-20, col. 14 lines 45-50).

12. As per claim 10, Lindwer teaches method of converting a set of Java Bytecode executable instructions into a set of executable virtual machine instructions, the method comprising:
receiving one or more bytes representing a Java Bytecode instruction suitable for execution in a virtual machine(col. 1 lines 53-56); and
selecting a corresponding virtual machine instruction, the corresponding virtual machine instruction suitable for execution in the virtual machine and representing one or more operations that can be performed when the Java Bytecode instruction is executed(col. 6 lines 46-52, col. 8 lines 14-20, col. 14 lines 45-50); and
wherein the virtual machine instruction can represent at least two or more Java Bytecode executable instructions such that operations that can be performed by executing the at least two or more Java Bytecode executable instructions can be performed by execution of the virtual machine instruction (col. 6 lines 46-52, col. 8 lines 14-20, col. 14 lines 45-50).
13. As per claim 11, Lindwer teaches method, wherein the method further comprises: loading the virtual machine instruction into the virtual machine as an internal representation with a pair of streams (col. 14 lines 45-50).
14. As per claim 12, Lindwer teaches method wherein the pair of streams includes a code stream and a data stream, the code stream suitable for containing a code portion of the at least one virtual machine instruction, and the data stream suitable for containing a data

portion of the at least one virtual machine instruction (col. 6 lines 46-52, col. 8 lines 14-20, col. 14 lines 45-50).

15. As per claim 13, Lindwer teaches a Java Bytecode instruction translator operating to convert a set of Java Bytecode executable instructions suitable for execution on a virtual machine into a set of corresponding executable virtual machine instructions (col. 1 lines 53-56); and wherein the corresponding virtual machine instructions are also suitable for execution in the virtual machine and represent operations that can be performed by execution of a number of corresponding Java Bytecode instructions (col. 14 lines 45-50);and wherein the corresponding set of the virtual machine instructions consists of a number of virtual machine instructions that is less than the number of the corresponding Java Bytecode executable instructions(col. 6 lines 46-52, col. 8 lines 14-20, col. 14 lines 45-50).

16. Claims 14-20 are rejected based on the same rejections as claims 3-20 above.

Response to Arguments

17. Applicant's arguments filed 9/20/04 have been fully considered but they are not persuasive. Applicant states Lindwer fails to teach a set of virtual machine instructions less than the number Java instructions.

18. Examiner respectfully disagrees with applicant's remarks. Lindwer set of virtual machine instructions less than the number Java instructions (col. 52-65). Lindwer teaches reducing or compactly the virtual machine instructions which would be less than the Java byte codes.

Conclusion

19. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Gee et al (6, 374,286) teaches the use of real time processor capable of concurrently multiple independent java machines. Bayeh (6,223,202) teaches the use of virtual machines that can execute as different execution environments.
20. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nilesh Shah whose telephone number is (571)272-3771. The examiner can normally be reached on 9-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Meng An can be reached on (571)272-3756. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Nilesh Shah
Examiner
Art Unit 2127

NS
February 8, 2005


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SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100